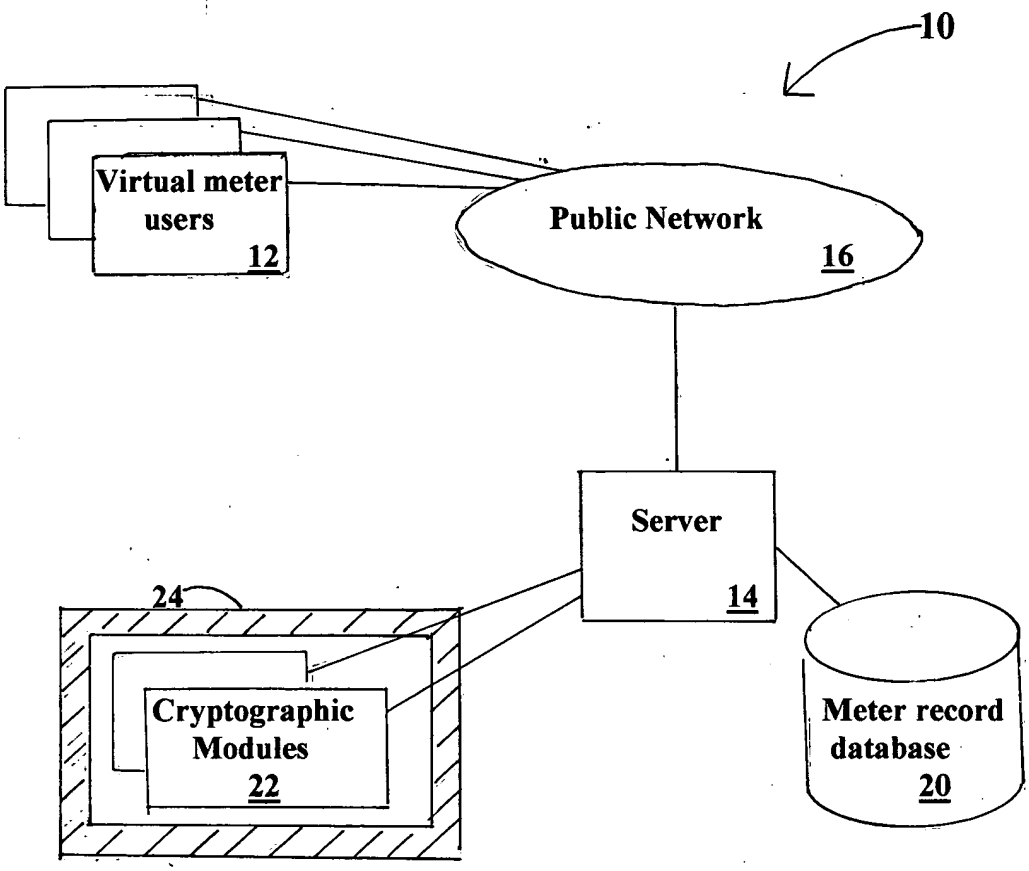

FIG. 1

Docket No. 200500

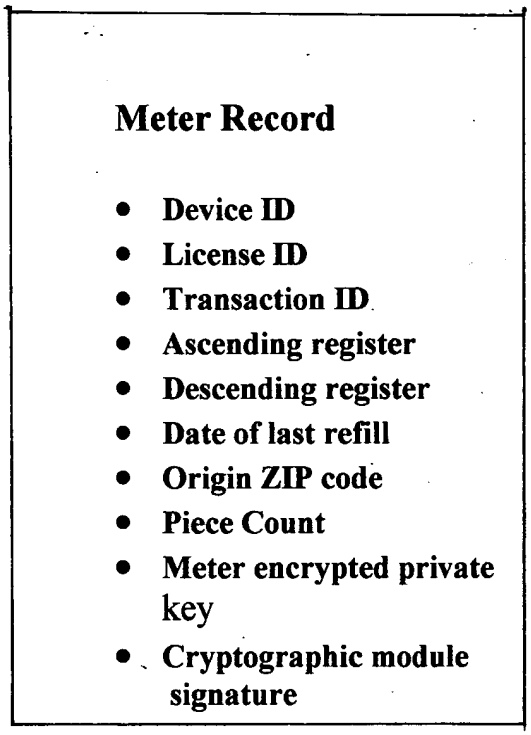

FIG. 2

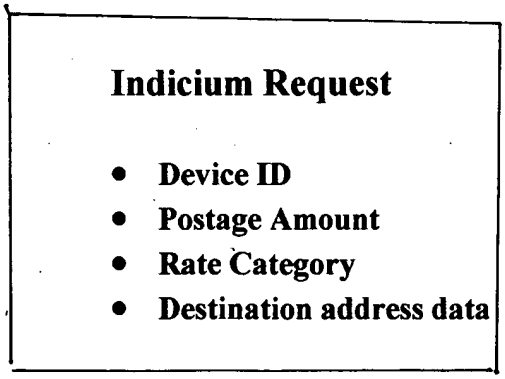

FIG. 3

0060-4505-0960

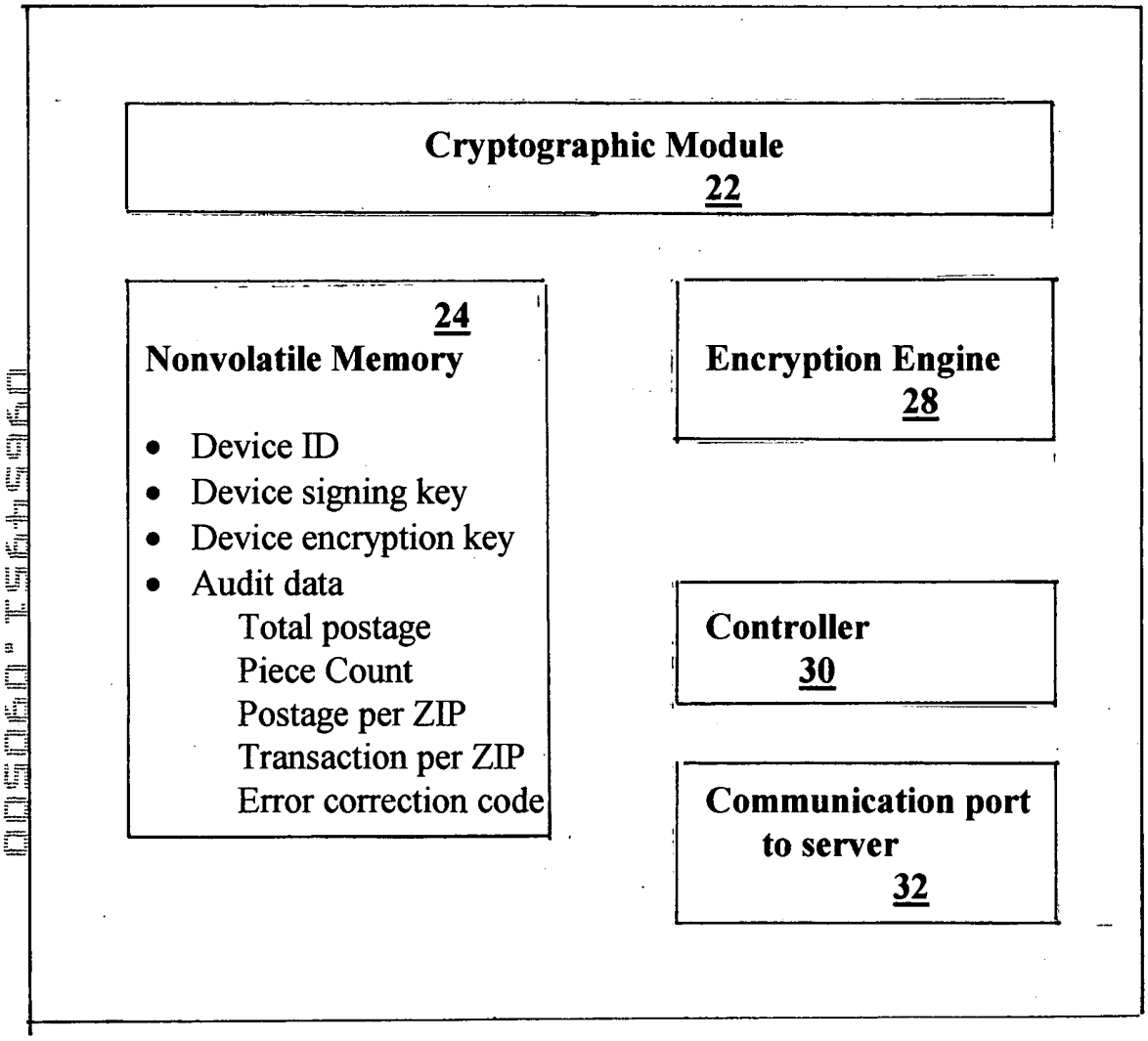
Cryptographic Module
22
24
Nonvolatile Memory
• Device ID
• Device signing key
• Device encryption key
• Audit data
Total postage
Piece Count
Postage per ZIP
Transaction per ZIP
Error correction code
Encryption Engine
28
Controller
30
Communication port
to server
32

FIG.4

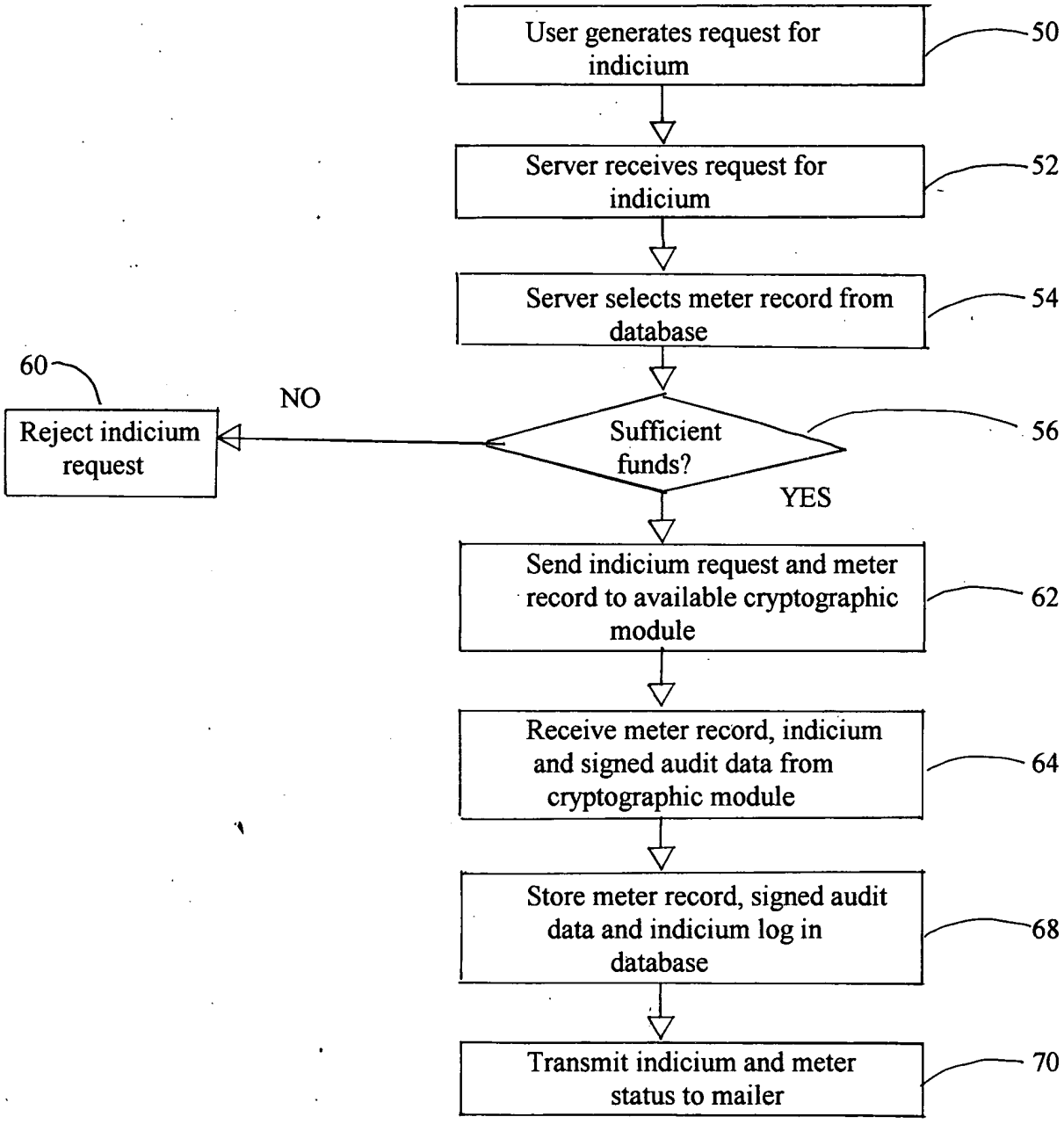
User generates request for indicium
50
Server receives request for indicium
52
Server selects meter record from database
54
Sufficient funds?
56
NO
60
Reject indicium request
YES
Send indicium request and meter record to available cryptographic module
62
Receive meter record, indicium and signed audit data from cryptographic module
64
Store meter record, signed audit data and indicium log in database
68
Transmit indicium and meter status to mailer
70

FIG. 5

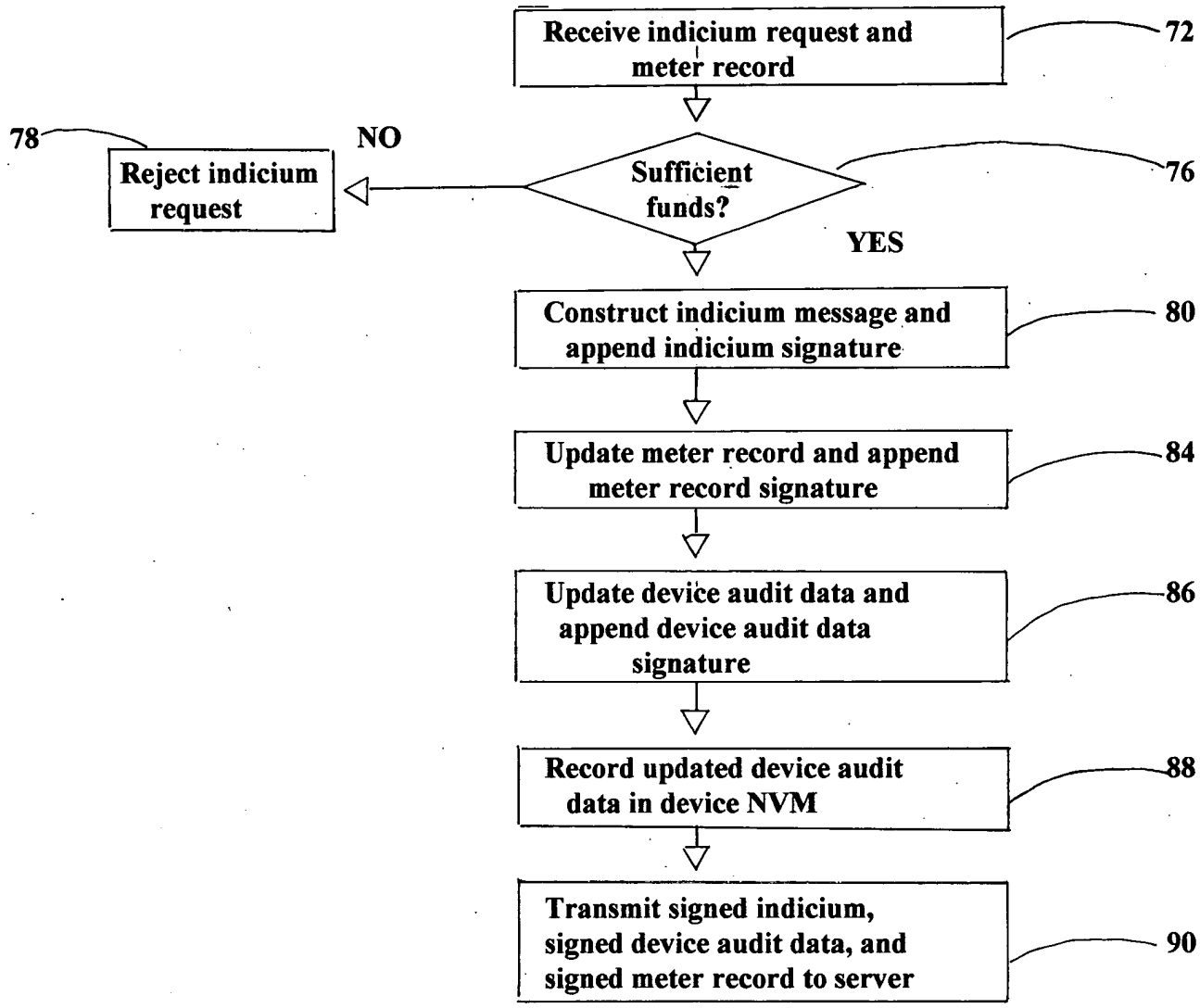
Receive indicium request and meter record
72
Sufficient funds?
76
NO
78
Reject indicium request
YES
Construct indicium message and append indicium signature
80
Update meter record and append meter record signature
84
Update device audit data and append device audit data signature
86
Record updated device audit data in device NVM
88
Transmit signed indicium, signed device audit data, and signed meter record to server
90

FIG. 6

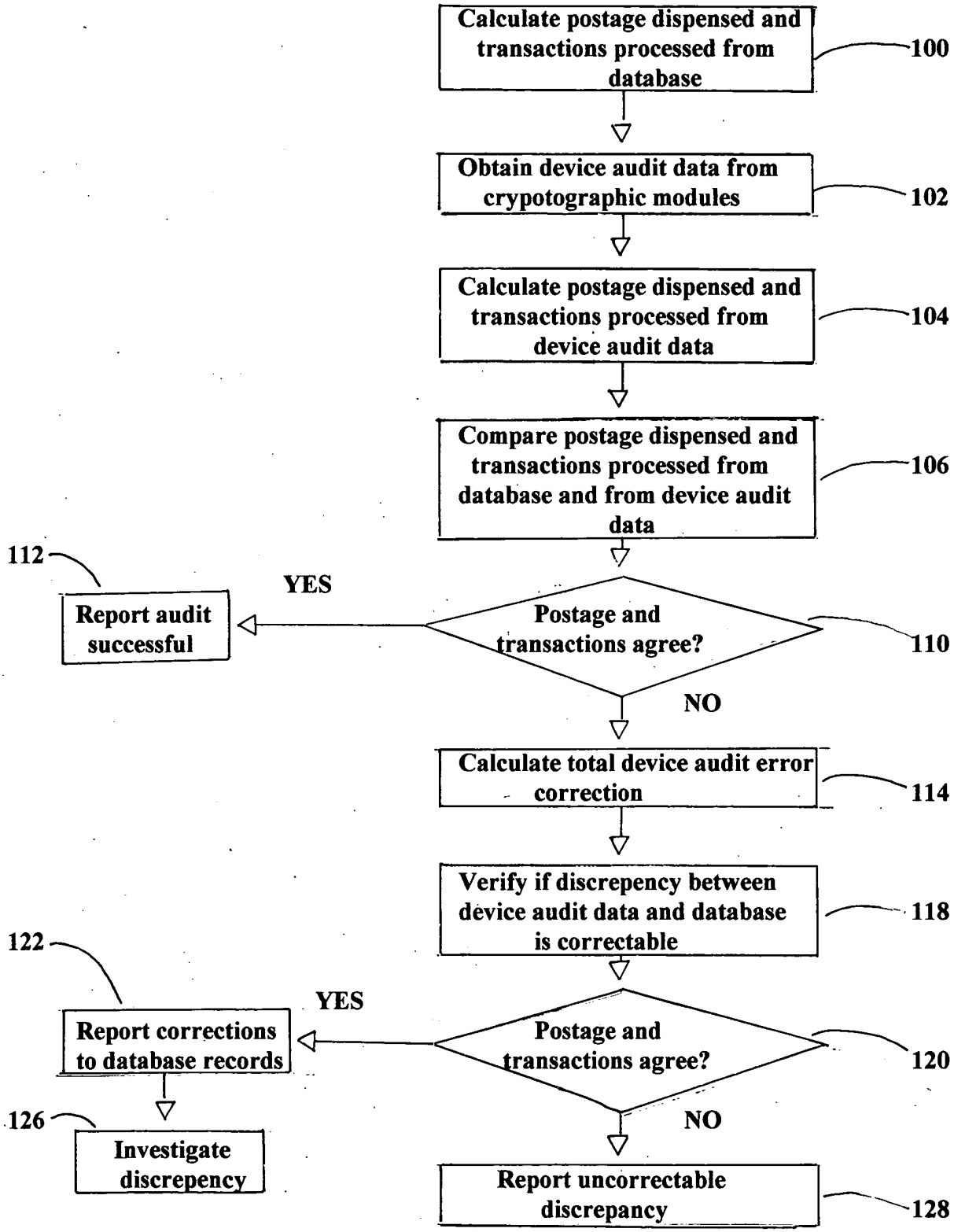
Calculate postage dispensed and transactions processed from database
100
Obtain device audit data from crypotographic modules
102
Calculate postage dispensed and transactions processed from device audit data
104
Compare postage dispensed and transactions processed from database and from device audit data
106
Postage and transactions agree?
110
YES
112
Report audit successful
NO
Calculate total device audit error correction
114
Verify if discrepency between device audit data and database is correctable
118
Postage and transactions agree?
120
YES
122
Report corrections to database records
NO
126
Investigate discrepency
Report uncorrectable discrepancy
128

FIG. 7